

**ABSTRACT**

A sensor for measuring a parameter applied to a surface is provided. The sensor includes at least one substrate layer, a plurality of individual sensor elements operatively arranged with respect to the substrate layer, and a conductive trace disposed on the substrate layer. The conductive trace is electrically coupled to an individual sensor element and wraps around at least a portion of the sensor element in a spiral-like manner. Further, by employing slits or cut-outs of material between sensor elements, a sensor element may move independent of an adjacent sensor element, thereby allowing the sensor to conform to an irregularly shaped surface or otherwise when subject to relatively large deflections. The sensor may be employed to detect force distribution of a seating surface, such as a seat cushion of a wheelchair.